

ABSTRACT OF THE DISCLOSURE

A method for controlling a gap in an electrically conducting solid state structure provided with a gap. The structure is exposed to a fabrication process environment conditions of which are selected to alter an extent of the gap. During exposure of the structure to the process environment, a voltage bias is applied across the gap. Electron tunneling current across the gap is measured during the process environment exposure and the process environment is controlled during process environment exposure based on tunneling current measurement. A method for controlling the gap between electrically conducting electrodes provided on a support structure. Each electrode has an electrode tip separated from other electrode tips by a gap. The electrodes are exposed to a flux of ions causing transport of material of the electrodes to corresponding electrode tips, locally adding material of the electrodes to electrode tips in the gap.